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PATENT APPLICATION

ATTORNEY DOCKET NO. 200314885-1

IN THE  
**UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor(s): Daniel R. Tretter et al.

Confirmation No.:

Application No.: 10/686,888

Examiner: Bernard Krasnic

Filing Date: October 30, 2003

Group Art Unit: 2621

Title: GENERATING AND DISPLAYING SPATIALLY OFFSET SUB-FRAMES ON DIFFERENT TYPES OF GRIDS

Mail Stop Appeal Brief - Patents  
Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**TRANSMITTAL OF REPLY BRIEF**Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on November 5, 2007.

This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new ground rejection.)

No fee is required for filing of this Reply Brief.

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Respectfully submitted,

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**JAN 04 2008**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

<b>Applicant:</b>	Daniel R. Tretter et al.	<b>Examiner:</b>	Bernard Krasnic
<b>Serial No.:</b>	10/696,888	<b>Group Art Unit:</b>	2621
<b>Filed:</b>	October 30, 2003	<b>Docket No.:</b>	200314885-1 / H304.125.101
<b>Due Date:</b>	January 5, 2008		
<b>Title:</b>	GENERATING AND DISPLAYING SPATIALLY OFFSET SUB-FRAMES ON DIFFERENT TYPES OF GRIDS		

**REPLY BRIEF TO EXAMINER'S ANSWER**

**Mail Stop Appeal Brief – Patents**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

This Reply Brief is presented in response to the Examiner's Answer mailed November 5, 2007, and in support of the Notice of Appeal filed June 1, 2007, and the Appeal Brief filed August 1, 2007, appealing the rejection of claims 1-42 of the above-identified application as set forth in the Final Office Action mailed April 5, 2007.

At any time during the pendency of this application, please charge any fees required or credit any overpayment due to Deposit Account No. 08-2025 pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees required to Deposit Account No. 08-2025 under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Appellant respectfully requests reconsideration and reversal of the Examiner's rejection of pending claims 1-42.

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**ARGUMENT**

The language and arguments set forth in the Grounds of Rejection section (Examiner's Answer at pages 3-12) appear to be identical to the language and arguments set forth in the Final Office Action mailed April 5, 2007. Appellant has addressed the deficiencies in these rejections in the Appeal Brief submitted on August 1, 2007. Therefore, the following remarks will be directed to the Examiner's arguments in the Response to Argument section, which begins on page 12 of the Examiner's Answer.

- I. Rejection of Claims 1-5 and 10-14 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**
- A. Rejection of Claim 1 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Independent claim 1 recites "receiving image data for the image on a first type of grid", "generating a first sub-frame and a second sub-frame corresponding to the image data, the first and the second sub-frames each generated on a second type of grid that is different than the first type of grid, wherein one of the first type of grid and the second type of grid is a non-rectangular grid", and "alternating between displaying the first sub-frame in a first position and displaying the second sub-frame in a second position spatially offset from the first position."

In the Response to Argument section of the Examiner's Answer, with respect to claim 1, the Examiner gave a summary of the teachings of Gibbon and stated that this "essentially is the applicants invention." (Examiner's Answer at para. no. 2, page 13). The Examiner either misunderstands, or is mischaracterizing, the invention of Appellant. Appellant's invention is defined by the claims, not the Examiner's shortened and paraphrased version that does not even mention different types of grids or a non-rectangular grid.

The Examiner next repeated the argument from the Final Office Action that the disclosure in Gibbon regarding different image resolutions teaches "the claimed limitation of 'a different grid' . . . ." (Examiner's Answer at para. no. 2, page 13). As Appellant pointed out in the Appeal Brief, this argument ignores the language used in the claims. These claims do not recite "a different grid". Rather, they recite "a second type of grid that is different

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than the first type of grid" and "wherein one of the first type of grid and the second type of grid is a non-rectangular grid". Gibbon uses the same type of grid (a rectangular grid) for all images.

The Examiner next stated that "[a]s for the Appellants second and third argument that Messing does not teach the entire claim, the Examiner would like to once again point out that Messing is used as a secondary reference to *only* show this limitation wherein 'one of the first type of grid and the second type of grid is on a non-rectangular grid' while Gibbon teaches the essential claimed invention." (Examiner's Answer at para. no. 2, page 14) (emphasis in original). The Examiner's argument ignores the fact that the "wherein" clause is related to and further defines the language that precedes it. The wherein clause refers to "the first type of grid" and "the second type of grid", which are elements that are introduced earlier in the claim. The language that precedes the wherein clause recites "receiving image data for the image on a first type of grid", and "generating a first sub-frame and a second sub-frame corresponding to the image data, the first and the second sub-frames each generated on a second type of grid that is different than the first type of grid". These claim limitations cannot be construed in isolation from the wherein clause, as the Examiner is attempting to do. The Examiner has not identified any disclosure in the cited references that teaches or suggests receiving image data for an image on a non-rectangular grid, and generating a first and a second sub-frame corresponding to the image data on a second type of grid that is different than the non-rectangular grid, nor has the Examiner identified any disclosure in the cited references that teaches or suggests receiving image data for an image on a first type of grid, and generating a first and a second sub-frame corresponding to the image data on a non-rectangular grid that is different than the first type of grid.

The Examiner next stated that "the Gibbon references teaches the essential core of the claimed invention while Messing obviously teaches the minor detail that the one type of grid is on a rectangular grid while the other is on a non-rectangular grid (Messing is teaching the minor detail that images may be on different grid patterns [rectangular and non-rectangular] which is definitely well known to one of ordinary skill in the art at the time of the invention)." (Examiner's Answer at para. no. 2, page 15). Again, the Examiner's use of terms such as "essential core of the claimed invention" and "minor detail" appears to show

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either a misunderstanding or mischaracterization of the claimed invention, and ignores the complexities involved in generating sub-frames for display at spatially offset positions when different types of grids are involved, as described in the specification of the present Application. The Examiner's argument also again ignores the fact that the "wherein" clause is related to and further defines the language that precedes it. Claim 1 does not simply recite that "images may be on different grid patterns", as suggested by the Examiner. Gibbon and Messing do not teach or suggest receiving image data for an image on a first type of grid, and generating sub-frames corresponding to the image data on a second type of grid that is different than the first type of grid, wherein one of the first type of grid and the second type of grid is a non-rectangular grid.

On pages 15-17 (para. nos. 3-8) of the Examiner's Answer, the Examiner states several times that "the Appellant argues . . .", citing section II of Appellant's Appeal Brief, and then the Examiner addresses these "arguments". Section II of the Appeal Brief is an "Applicable Law" section, and does not contain arguments of the Appellant.

In view of the above, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of independent claim 1, and the rejection of independent claim 1 under 35 U.S.C. §103(a) should be withdrawn.

**B. Rejection of Claim 2 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 2 recites "the method of claim 1, wherein the first type of grid is a rectangular grid and the second type of grid is a diamond grid." Since this claim further defines independent claim 1, the resulting claim recites receiving image data for the image on a rectangular grid, generating a first sub-frame and a second sub-frame corresponding to the image data on a diamond grid, and alternating between displaying the first sub-frame in a first position and displaying the second sub-frame in a second position spatially offset from the first position.

In the Response to Argument section of the Examiner's Answer, with respect to claim 2, the Examiner stated that:

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*The Appellant firstly argues, regarding claim 2 (see Appeal Brief, pp. 10-11) that Gibbon does not teach or suggest "receiving image data for an image on a rectangular grid, and generating a first sub-frame and second sub-frame corresponding to the image data on a diamond grid" because the Appellant believes that Gibbons teaches only rectangular grids for all images.*

...

The Examiner's response to the Appellant's first argument is that **Gibbon does not teach such a limitation** because as discussed above Gibbon teaches only rectangular grids for all of the images. Since Gibbon teaches all the other limitations of the claim, Messing was the secondary reference which was used to obviously teach this rectangular first type of grid and this diamond second type of grid [diamond is another way of describing an irregular grid or quincunx grid] as discussed above in Section I-A.2." (Examiner's Answer at para. nos. 1 and 2, page 18) (bold emphasis added).

The Examiner admitted above that Gibbon does not teach "receiving image data for an image on a rectangular grid, and generating a first sub-frame and second sub-frame corresponding to the image data on a diamond grid" (i.e., the Examiner stated that "Gibbon does not teach such a limitation"). The Examiner has also not identified any disclosure in Gibbon or Messing that teaches or suggests displaying such sub-frames (i.e., sub-frames on a diamond grid) in a spatially offset manner.

The Examiner next stated that "[t]he Examiner's response to the Appellants' second argument is that Messing is not used to teach the production of the low resolution images but rather *only* showing this limitation wherein the first type of grid is a rectangular grid and the second type of grid is a diamond grid." (Examiner's Answer at para. no. 2, page 19) (emphasis in original). This argument, and the argument regarding Messing in the above block quote, ignore the fact that the "wherein" clause is related to and further defines the language that precedes it. As mentioned above, since dependent claim 2 further defines independent claim 1, the resulting claim recites receiving image data for the image on a rectangular grid, generating a first sub-frame and a second sub-frame corresponding to the image data on a diamond grid, and alternating between displaying the first sub-frame in a first position and displaying the second sub-frame in a second position spatially offset from the first position. The mere mention of a "quincunx" grid in Messing does not teach or suggest the above limitations. Thus, in light of the Examiner's admission that Gibbon does not teach

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these limitations, and the failure to identify any disclosure in Messing that teaches or suggests these limitations, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 2.

Since dependent claim 2 further limits patentably distinct claim 1, and is further distinguishable over the cited references, claim 2 is believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 2, and the rejection of dependent claim 2 under 35 U.S.C. §103(a) should be withdrawn.

**C. Rejection of Claim 3 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 3 recites "the method of claim 2, wherein the image data includes rectangular-shaped pixels on the rectangular grid, and the first and the second sub-frames each include diamond-shaped pixels on the diamond grid." Appellant pointed out in the Appeal Brief that the Examiner has not cited any disclosure in Gibbon or Messing that teaches or suggests first and second sub-frames that include diamond-shaped pixels on a diamond grid. In the Response to Argument section of the Examiner's Answer, with respect to claim 3, the Examiner stated that:

The Examiner's response to the Appellants argument is that Gibbon discloses the two sub-frames which are on rectangular grids and Messing's teachings obviously show that Gibbons two sub-frames are on a diamond grid as discussed above in Section I-A.2. Therefore the pixels are basically diamond shaped due to the fact that the pixels are on a diamond shaped grid. (Examiner's Answer at para. no. 2, pages 19-20).

The Examiner's apparent contention that pixels have to be "basically" diamond shaped if a diamond grid is used is factually incorrect, and the Examiner has not identified any disclosure in the cited references to support this contention. The Examiner still has not cited any disclosure in Gibbon or Messing that teaches or suggests first and second sub-frames that include diamond-shaped pixels on a diamond grid.

Since dependent claim 3 further limits patentably distinct claim 1, and is further distinguishable over the cited references, claim 3 is believed to be allowable over the cited

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references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 3, and the rejection of dependent claim 3 under 35 U.S.C. §103(a) should be withdrawn.

**D. Rejection of Claim 4 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 4 recites "the method of claim 1, wherein the first type of grid is a diamond grid and the second type of grid is a rectangular grid." Since this claim further defines independent claim 1, the resulting claim recites receiving image data for the image on a diamond grid, and generating a first sub-frame and a second sub-frame corresponding to the image data on a rectangular grid. In the Response to Argument section of the Examiner's Answer, with respect to claim 4, the Examiner stated that:

The Examiner's response to the Appellants' first argument is that **Gibbon does not teach such a limitation** because as discussed above Gibbon teaches only rectangular grids for all of the images. Since Gibbon teaches all the other limitations of the claim, Messing was the secondary reference which was used to obviously teach this diamond first type of grid [diamond is another way of describing an irregular grid or quincunx grid] and this rectangular second type grid as discussed above in Section I-A.2". (Examiner's Answer at para. no. 2, page 21) (bold emphasis added).

The Examiner admitted above that Gibbon does not teach "receiving image data for an image on a diamond grid, and generating a first sub-frame and second sub-frame corresponding to the image data on a rectangular grid" (i.e., the Examiner stated that "Gibbon does not teach such a limitation").

The Examiner next stated that "[t]he Examiner's response to the Appellants' second argument is that Messing is not teaching the production of the low resolution images but rather *only* showing this limitation wherein the first type of grid is a diamond grid and the second type of grid is a rectangular grid." (Examiner's Answer at para. no. 2, page 21) (emphasis in original). This argument, and the argument regarding Messing in the above block quote, ignore the fact that the "wherein" clause is related to and further defines the language that precedes it. As mentioned above, since dependent claim 4 further defines



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independent claim 1, the resulting claim recites receiving image data for the image on a diamond grid, and generating a first sub-frame and a second sub-frame corresponding to the image data on a rectangular grid. The mere mention of a "quincunx" grid in Messing does not teach or suggest the above limitations. Thus, in light of the Examiner's admission that Gibbon does not teach these limitations, and the failure to identify any disclosure in Messing that teaches or suggests these limitations, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 4.

Since dependent claim 4 further limits patentably distinct claim 1, and is further distinguishable over the cited references, claim 4 is believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 4, and the rejection of dependent claim 4 under 35 U.S.C. §103(a) should be withdrawn.

**E. Rejection of Claim 5 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 5 recites "the method of claim 4, wherein the image data includes diamond-shaped pixels on the diamond grid, and the first and the second sub-frames each include rectangular-shaped pixels on the rectangular grid." Appellant pointed out in the Appeal Brief that the Examiner has not cited any disclosure in Gibbon or Messing that teaches or suggests image data with diamond-shaped pixels on a diamond grid, or generating first and second sub-frames corresponding to such image data (i.e., image data with diamond-shaped pixels on a diamond grid) with rectangular-shaped pixels on a rectangular grid. In the Response to Argument section of the Examiner's Answer, with respect to claim 5, the Examiner stated that:

The Examiner's response to the Appellants argument is that Gibbon discloses the two sub-frames which are on rectangular grids and Messing's teachings obviously show that Gibbons image data are on a diamond grid as discussed above in Section I-D.2. Therefore the pixels in the image data are on a diamond shaped grid, and the pixels in the sub-frames are basically diamond shaped due to the fact that the pixels in the sub-frames are on a rectangular shaped grid. (Examiner's Answer at para. no. 2, page 22).

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The Examiner's apparent contention that pixels have to be "basically" diamond shaped if a rectangular grid is used is factually incorrect, is contradicted by the Examiner's statement with respect to claim 3 (that the pixels have to be basically diamond shaped if a diamond grid is used), and the Examiner has not identified any disclosure in the cited references to support this contention. The Examiner still has not cited any disclosure in Gibbon or Messing that teaches or suggests image data with diamond-shaped pixels on a diamond grid, or generating first and second sub-frames corresponding to such image data (i.e., image data with diamond-shaped pixels on a diamond grid) with rectangular-shaped pixels on a rectangular grid.

Since dependent claim 5 further limits patentably distinct claim 1, and is further distinguishable over the cited references, claim 5 is believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 5, and the rejection of dependent claim 5 under 35 U.S.C. §103(a) should be withdrawn.

**F. Rejection of Claim 10 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Independent claim 10 recites "a buffer adapted to receive image data for the image on a first type of grid", "an image processing unit configured to define first and second sub-frames corresponding to the image data, the first and the second sub-frames each defined on a second type of grid that is different than the first type of grid, wherein one of the first type of grid and the second type of grid is a non-rectangular grid", and "a display device adapted to alternately display the first sub-frame in a first position and the second sub-frame in a second position spatially offset from the first position."

In the Response to Argument section of the Examiner's Answer, with respect to claim 10, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-A.2 with respect to claim 1, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 10." (Examiner's Answer at para. no. 2, page 23). For at least the reasons discussed in the Appeal Brief with respect to claim 10, and the reasons discussed above with respect to claim 1, Appellant respectfully submits that the

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Examiner has not established a *prima facie* case of obviousness of independent claim 10, and the rejection of independent claim 10 under 35 U.S.C. §103(a) should be withdrawn.

**G. Rejection of Claim 11 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 11 recites "the system of claim 10, wherein the first type of grid is a rectangular grid and the second type of grid is a diamond grid." Since this claim further defines independent claim 10, the resulting claim recites receiving image data for the image on a rectangular grid, defining a first sub-frame and a second sub-frame corresponding to the image data on a diamond grid, and alternately displaying the first sub-frame in a first position and the second sub-frame in a second position spatially offset from the first position.

In the Response to Argument section of the Examiner's Answer, with respect to claim 11, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-B.2 with respect to claim 2, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 11." (Examiner's Answer at para. no. 2, page 23). For at least the reasons discussed in the Appeal Brief with respect to claim 11, and the reasons discussed above with respect to claim 2, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 11, and the rejection of dependent claim 11 under 35 U.S.C. §103(a) should be withdrawn.

**H. Rejection of Claim 12 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 12 recites "the system of claim 11, wherein the image data includes rectangular-shaped pixels on the rectangular grid, and the first and the second sub-frames each include diamond-shaped pixels on the diamond grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 12, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-C.2 with respect to claim 3, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 12." (Examiner's Answer at para. no. 2, page 24). For at least the reasons discussed in the Appeal Brief with respect to claim 12, and the

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reasons discussed above with respect to claim 3, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 12, and the rejection of dependent claim 12 under 35 U.S.C. §103(a) should be withdrawn.

**I. Rejection of Claim 13 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 13 recites "the system of claim 10, wherein the first type of grid is a diamond grid and the second type of grid is a rectangular grid." Since this claim further defines independent claim 10, the resulting claim recites receiving image data for the image on a diamond grid, and defining a first sub-frame and a second sub-frame corresponding to the image data on a rectangular grid.

In the Response to Argument section of the Examiner's Answer, with respect to claim 13, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-D.2 with respect to claim 4, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 13." (Examiner's Answer at para. no. 2, page 24). For at least the reasons discussed in the Appeal Brief with respect to claim 13, and the reasons discussed above with respect to claim 4, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 13, and the rejection of dependent claim 13 under 35 U.S.C. §103(a) should be withdrawn.

**J. Rejection of Claim 14 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing.**

Dependent claim 14 recites "the system of claim 13, wherein the image data includes diamond-shaped pixels on the diamond grid, and the first and the second sub-frames each include rectangular-shaped pixels on the rectangular grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 14, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-E.2 with respect to claim 5, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 14." (Examiner's Answer at para. no. 2, page 24). For at least the reasons discussed in the Appeal Brief with respect to claim 14, and the

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reasons discussed above with respect to claim 5, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 14, and the rejection of dependent claim 14 under 35 U.S.C. §103(a) should be withdrawn.

**II. Rejection of Claims 6, 7, 15, 16, 19-24, 27-34, and 37-40 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

**A. Rejection of Claims 6, 7, 15, and 16 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Since dependent claims 6, 7, 15, and 16 further limit patentably distinct claim 1 or claim 10, and are further distinguishable over the cited references, claims 6, 7, 15, and 16 are believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claims 6, 7, 15, and 16, and the rejection of dependent claims 6, 7, 15, and 16 under 35 U.S.C. §103(a) should be withdrawn.

**B. Rejection of Claims 19 and 24 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Independent claim 19 recites "means for receiving a first high resolution image on a first type of grid", and "means for generating a first plurality of low resolution sub-frames for display at spatially offset positions to generate the appearance of a high resolution image based on the first high resolution image and the stored relationship, each of the low resolution sub-frames generated on a second type of grid, wherein one of the first type of grid and the second type of grid is a non-rectangular grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 19, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-A.2 with respect to claim 1, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 19." (Examiner's Answer at para. no. 2, page

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26). For at least the reasons discussed in the Appeal Brief with respect to claim 19, and the reasons discussed above with respect to claim 1, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of independent claim 19, and the rejection of independent claim 19 under 35 U.S.C. §103(a) should be withdrawn. Since dependent claim 24 further limits patentably distinct claim 19, and is further distinguishable over the cited references, claim 24 is believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 24, and the rejection of dependent claim 24 under 35 U.S.C. §103(a) should be withdrawn.

**C. Rejection of Claim 20 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 20 recites "the system of claim 19, wherein the first type of grid is a rectangular grid and the second type of grid is a diamond grid." Since this claim further defines independent claim 19, the resulting claim recites receiving a first high resolution image on a rectangular grid, and generating a first plurality of low resolution sub-frames for display at spatially offset positions to generate the appearance of a high resolution image based on the first high resolution image, each of the low resolution sub-frames generated on a diamond grid.

In the Response to Argument section of the Examiner's Answer, with respect to claim 20, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-B.2 with respect to claim 2, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 20." (Examiner's Answer at para. no. 2, page 27). For at least the reasons discussed in the Appeal Brief with respect to claim 20, and the reasons discussed above with respect to claim 2, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 20, and the rejection of dependent claim 20 under 35 U.S.C. §103(a) should be withdrawn.

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**D. Rejection of Claim 21 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 21 recites "the system of claim 20, wherein the first high resolution image includes rectangular-shaped pixels on the rectangular grid, and the first plurality of low resolution sub-frames each include diamond-shaped pixels on the diamond grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 21, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-C.2 with respect to claim 3, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 21." (Examiner's Answer at para. no. 2, page 28). For at least the reasons discussed in the Appeal Brief with respect to claim 21, and the reasons discussed above with respect to claim 3, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 21, and the rejection of dependent claim 21 under 35 U.S.C. §103(a) should be withdrawn.

**E. Rejection of Claim 22 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 22 recites "the system of claim 19, wherein the first type of grid is a diamond grid and the second type of grid is a rectangular grid." Since this claim further defines independent claim 19, the resulting claim recites receiving a first high resolution image on a diamond grid, and generating a first plurality of low resolution sub-frames for display at spatially offset positions to generate the appearance of a high resolution image based on the first high resolution image, each of the low resolution sub-frames generated on a rectangular grid.

In the Response to Argument section of the Examiner's Answer, with respect to claim 22, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-D.2 with respect to claim 4, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 22." (Examiner's Answer at para. no. 2, page 29). For at least the reasons discussed in the Appeal Brief with respect to claim 22, and the reasons discussed above with respect to claim 4, Appellant respectfully submits that the

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Examiner has not established a *prima facie* case of obviousness of dependent claim 22, and the rejection of dependent claim 22 under 35 U.S.C. §103(a) should be withdrawn.

**F. Rejection of Claim 23 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 23 recites "the system of claim 22, wherein the first high resolution image includes diamond-shaped pixels on the diamond grid, and the first plurality of low resolution sub-frames each include rectangular-shaped pixels on the rectangular grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 23, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-E.2 with respect to claim 5, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 23." (Examiner's Answer at para. no. 2, page 30). For at least the reasons discussed in the Appeal Brief with respect to claim 23, and the reasons discussed above with respect to claim 5, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 23, and the rejection of dependent claim 23 under 35 U.S.C. §103(a) should be withdrawn.

**G. Rejection of Claims 27 and 30 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Independent claim 27 recites "receiving a first high resolution image on a first type of grid", and "generating a first plurality of low resolution sub-frames for display at spatially offset positions to generate the appearance of a high resolution image based on the first high resolution image and the relationship between sub-frame values and high resolution image values, the first plurality of low resolution sub-frames generated on a second type of grid, wherein one of the first type of grid and the second type of grid is a non-rectangular grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 27, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-A.2 with respect to claim 1, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 27." (Examiner's Answer at para. no. 2, page



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31). For at least the reasons discussed in the Appeal Brief with respect to claim 27, and the reasons discussed above with respect to claim 1, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of independent claim 27, and the rejection of independent claim 27 under 35 U.S.C. §103(a) should be withdrawn. Since dependent claim 30 further limits patentably distinct claim 27, and is further distinguishable over the cited references, claim 30 is believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 30, and the rejection of dependent claim 30 under 35 U.S.C. §103(a) should be withdrawn.

**H. Rejection of Claim 28 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 28 recites "the computer-readable medium of claim 27, wherein the first type of grid is a rectangular grid and the second type of grid is a diamond grid." Since this claim further defines independent claim 27, the resulting claim recites receiving a first high resolution image on a rectangular grid, and generating a first plurality of low resolution sub-frames for display at spatially offset positions to generate the appearance of a high resolution image based on the first high resolution image, the first plurality of low resolution sub-frames generated on a diamond grid.

In the Response to Argument section of the Examiner's Answer, with respect to claim 28, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-B.2 with respect to claim 2, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 28." (Examiner's Answer at para. no. 2, page 32). For at least the reasons discussed in the Appeal Brief with respect to claim 28, and the reasons discussed above with respect to claim 2, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 28, and the rejection of dependent claim 28 under 35 U.S.C. §103(a) should be withdrawn.

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**I. Rejection of Claim 29 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 29 recites "the computer-readable medium of claim 27, wherein the first type of grid is a diamond grid and the second type of grid is a rectangular grid." Since this claim further defines independent claim 27, the resulting claim recites receiving a first high resolution image on a diamond grid, and generating a first plurality of low resolution sub-frames for display at spatially offset positions to generate the appearance of a high resolution image based on the first high resolution image, the plurality of low resolution sub-frames generated on a on a rectangular grid.

In the Response to Argument section of the Examiner's Answer, with respect to claim 29, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-D.2 with respect to claim 4, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 29." (Examiner's Answer at para. no. 2, page 33). For at least the reasons discussed in the Appeal Brief with respect to claim 29, and the reasons discussed above with respect to claim 4, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 29, and the rejection of dependent claim 29 under 35 U.S.C. §103(a) should be withdrawn.

**J. Rejection of Claims 31 and 34 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Independent claim 31 recites "receiving image data for the image on a first type of grid", "generating a first frame corresponding to the image data based on minimization of an error between the image data and a simulated image, the first frame generated on a second type of grid that is different than the first type of grid", and "displaying the first frame on the second type of grid, wherein one of the first type of grid and the second type of grid is a non-rectangular grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 31, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-A.2 with respect to claim 1, the Examiner considers these arguments unpersuasive

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and maintains the previous rejection of claim 31." (Examiner's Answer at para. no. 2, page 34). For at least the reasons discussed in the Appeal Brief with respect to claim 31, and the reasons discussed above with respect to claim 1, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of independent claim 31, and the rejection of independent claim 31 under 35 U.S.C. §103(a) should be withdrawn. Since dependent claim 34 further limits patentably distinct claim 31, and is further distinguishable over the cited references, claim 34 is believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 34, and the rejection of dependent claim 34 under 35 U.S.C. §103(a) should be withdrawn.

**K. Rejection of Claim 32 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 32 recites "the method of claim 31, wherein the first type of grid is a rectangular grid and the second type of grid is a diamond grid." Since this claim further defines independent claim 31, the resulting claim recites receiving image data for the image on a rectangular grid, generating a first frame based on the image data on diamond grid, and displaying the first frame on a diamond grid.

In the Response to Argument section of the Examiner's Answer, with respect to claim 32, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-B.2 with respect to claim 2, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 32." (Examiner's Answer at para. no. 2, page 35). For at least the reasons discussed in the Appeal Brief with respect to claim 32, and the reasons discussed above with respect to claim 2, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 32, and the rejection of dependent claim 32 under 35 U.S.C. §103(a) should be withdrawn.

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**L. Rejection of Claim 33 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 33 recites "the method of claim 32, wherein the image data includes rectangular-shaped pixels on the rectangular grid, and the first frame includes diamond-shaped pixels on the diamond grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 33, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-C.2 with respect to claim 3, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 33." (Examiner's Answer at para. no. 2, page 36). For at least the reasons discussed in the Appeal Brief with respect to claim 33, and the reasons discussed above with respect to claim 3, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 33, and the rejection of dependent claim 33 under 35 U.S.C. §103(a) should be withdrawn.

**M. Rejection of Claims 37 and 40 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Independent claim 37 recites "receive image data for the image on a first type of grid", "define a first frame corresponding to the image data based on minimization of an error between the image data and a simulated image, the first frame defined on a second type of grid that is different than the first type of grid, wherein one of the first type of grid and the second type of grid is a non-rectangular grid", and "display the first frame on the second type of grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 37, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-A.2 with respect to claim 1, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 37." (Examiner's Answer at para. no. 2, page 37). For at least the reasons discussed in the Appeal Brief with respect to claim 37, and the reasons discussed above with respect to claim 1, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of independent claim 37, and

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the rejection of independent claim 37 under 35 U.S.C. §103(a) should be withdrawn. Since dependent claim 40 further limits patentably distinct claim 37, and is further distinguishable over the cited references, claim 40 is believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 40, and the rejection of dependent claim 40 under 35 U.S.C. §103(a) should be withdrawn.

**N. Rejection of Claim 38 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 38 recites "the system of claim 37, wherein the first type of grid is a rectangular grid and the second type of grid is a diamond grid. Since this claim further defines independent claim 37, the resulting claim recites receiving image data for the image on a rectangular grid, defining a first frame based on the image data on diamond grid, and displaying the first frame on a diamond grid.

In the Response to Argument section of the Examiner's Answer, with respect to claim 38, the Examiner stated that "[f]or the same reasons respectively as discussed above in Section I-B.2 with respect to claim 2, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 38." (Examiner's Answer at para. no. 2, page 38). For at least the reasons discussed in the Appeal Brief with respect to claim 38, and the reasons discussed above with respect to claim 2, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 38, and the rejection of dependent claim 38 under 35 U.S.C. §103(a) should be withdrawn.

**O. Rejection of Claim 39 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, and further in view of Park.**

Dependent claim 39 recites "the system of claim 38, wherein the image data includes rectangular-shaped pixels on the rectangular grid, and the first frame includes diamond-shaped pixels on the diamond grid."

In the Response to Argument section of the Examiner's Answer, with respect to claim 39, the Examiner stated that "[f]or the same reasons respectively as discussed above in

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Section I-C.2 with respect to claim 3, the Examiner considers these arguments unpersuasive and maintains the previous rejection of claim 39." (Examiner's Answer at para. no. 2, page 39). For at least the reasons discussed in the Appeal Brief with respect to claim 39, and the reasons discussed above with respect to claim 3, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claim 39, and the rejection of dependent claim 39 under 35 U.S.C. §103(a) should be withdrawn.

**III. Rejection of Claims 8, 9, 17, 18, 25, 26, 35, 36, 41, and 42 under 35 U.S.C. §103(a) as being unpatentable over Gibbon in view of Messing, Park, Nomura, and Tanaka.**

Since dependent claims 8, 9, 17, 18, 25, 26, 35, 36, 41, and 42 further limit patentably distinct claim 1, 10, 19, 31, or 37, and are further distinguishable over the cited references, claims 8, 9, 17, 18, 25, 26, 35, 36, 41, and 42 are believed to be allowable over the cited references. Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness of dependent claims 8, 9, 17, 18, 25, 26, 35, 36, 41, and 42, and the rejection of dependent claims 8, 9, 17, 18, 25, 26, 35, 36, 41, and 42 under 35 U.S.C. §103(a) should be withdrawn.

**CONCLUSION**

For the above reasons, Appellant respectfully submits that the art of record neither anticipates nor renders obvious the claimed invention. Thus, the claimed invention does patentably distinguish over the art of record. Appellant, therefore, respectfully submits that the above rejections are not correct and should be withdrawn, and respectfully requests that the Examiner be reversed and that all pending claims be allowed.

Any inquiry regarding this Reply Brief should be directed to either Jeff A. Holmen at Telephone No. (612) 573-0178, Facsimile No. (612) 573-2005 or Timothy F. Myers at Telephone No. (541) 715-4197, Facsimile No. (541) 715-8581. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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**CERTIFICATE UNDER 37 C.F.R. 1.8**

The undersigned hereby certifies that this paper or papers, as described herein, are being transmitted via facsimile to Facsimile No. (571) 273-8300 on this 4th day of January, 2008

By

Name: Jeff A. Holmen